

DISCUSSION OF THE AMENDMENT

Claims 5 and 7-9 have been amended by changing terms such as “composed of” and “kinds” with more conventional language.

Claim 3 has been canceled.

No new matter is believed to have been added by the above amendment. Claims 1, 2 and 4-9 are now active; Claims 10-22 stand withdrawn from consideration, at least some of which are rejoinable.

REMARKS

Due to the length of the specification herein, Applicants will cite to the paragraph number of the published patent application (PG Pub) of the present application, i.e., US 2006/0048871, when discussing the application description, rather than to page and line of the specification as filed.

The rejections under 35 U.S.C. § 103(a) of Claims 1-7 as unpatentable over JP 10-087390 (Yamoto et al), and of Claims 8 and 9 as unpatentable over Yamoto et al in view of US 2005/0162607 [sic, US 2006/0162607] (Kodama et al), are respectfully traversed.

As recited in Claim 1, an embodiment of the present invention is a gas generating agent wherein the gas generating agent is a tubular molded article formed with a non-azide-based composition, and both ends of the molded article are squashed.

Yamoto et al, which was cited as an “A” category reference, i.e., document defining the general state of the art which is not considered to be of particular relevance, in the International Search Report for the corresponding international application, is described in the specification herein as so-called Patent Document 4 [0003]. As described therein, the molded article of Yamoto et al is produced by molding a gas generating agent to be shaped like a cylindrical tube, and is burnt simultaneously from the outer surface of the gas generating agent and from the inner surface of the through-hole so as to burn the agent with high efficiency, and hence is capable of exhibiting a high combustion performance while restricting the amount of heat generated by its combustion. As a result, Yamoto et al asserts that a gas generator can be reduced in size and weight. Applicants describe further [0004] that the gas generator disclosed in Yamoto et al can exhibit a high combustion performance, and therefore can instantaneously inflate and expand an airbag, but there is a fear that the airbag will adversely affect passengers because of the inflating shock of the airbag when the airbag is rapidly inflated at the beginning of the expansion thereof, and if so, the airbag may

be incapable of fulfilling its function as a device used to ensure the safety of vehicle occupants.

Applicants further describe that since both ends of the molded article of the invention are squashed, the compression strength thereof is higher than that of a conventional single-hole tubular agent. Therefore, when the gas generating agent is mounted in a vehicle as a gas generating agent at the time of generation of gas, the gas generating agent is superior in resistance to vibration, and a change in shape with the passage of time can be controlled [0089]; and since the gas generating agent of the present invention is higher in compression strength than the conventional single-hole tubular agent as mentioned above and since both ends and parts thereof are squashed to exhibit roundness, the gas generator can be filled with the gas generating agent with a high filling density, and therefore the gas generator can be reduced in size and weight [0090].

The specification herein contains comparative data between the presently-claimed invention (Examples 1-3) and comparative subject matter (Comparative Examples 1 and 2), wherein molded articles corresponding to those of Examples 1 and 2, respectively, were used, except that the ends were not squashed. The results are shown in Fig. 6 and Fig. 7, as described in the specification at [0098]-[0101]. As described therein, the inventive examples exhibited a time from ignition to start-up and time from the start-up to the attainment of a tank maximum pressure that are longer than those of the corresponding gas generating agents of the comparative examples and therefore, the inventive gas generating agents are burnt more gently than the comparative gas generating agents. Thus, it is understood that the inventive gas generating agent can moderate a mechanical shock caused by rapid inflation of an airbag at the beginning of air-bag expansion.

Comparison of Examples 1 and 2 with Comparative Examples 1 and 2, respectively, also shows superiority of the inventive structure over the comparative structure in terms of pressure strength and filling density.

In addition, the newly-submitted Sato Declaration describes a comparison between a gas generating agent of the presently-claimed invention and a gas generating agent in the shape of a single holed cylindrical tube, corresponding to the shape disclosed by Yamoto et al. The Sato Declaration shows that the gas generating agent of the present invention has better loading characteristics than that of the comparative gas generator, and a more favorable velocity.

Neither the presently-recited gas generating agent shape, nor the significantly improved results obtained thereby, as discussed above, could not have been predicted from Yamoto et al.

Kodama et al has been relied on simply for a disclosure of particular gas generating agent materials, but does not remedy the above-discussed fundamental deficiencies of Yamoto et al.

For all the above reasons, it is respectfully requested that this rejection be withdrawn.

The rejection of Claim 3 under 35 U.S.C. § 112, second paragraph, is respectfully traversed. Indeed, the rejection is now moot in view of the above-discussed amendment. Accordingly, it is respectfully requested that the rejection be withdrawn.

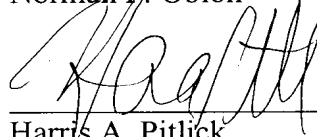
All of the presently-pending and active claims in this application are now believed to be in immediate condition for allowance. The Examiner is respectfully requested to rejoin

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the non-elected process claims, and in the absence of further grounds of rejection, pass this application to issue with all active and rejoined claims.

Respectfully submitted,

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